Avionics/Intelligence and Electronic Warfare Bulletin

"Serving the Needs of the Army's A/IEW Community"

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Commander's Tactical Terminal Three Channel (CTT3) Migration to the Integrated Broadcast Service (IBS) Common Message Format

The lack of interoperability among existing intelligence broadcasts, dissemination systems and associated terminals limits interactivity between producers and users resulting in different perspectives of the battlespace and limited coordinated operations. On 24 October 1995, the "IBS Implementation Plan" was approved by ASD (C3I) to establish a migration path to a single IBS broadcast with a common format, and the migration of tactical terminals to a single related Joint Tactical Terminal family.

There is currently a multitude of tactical terminals associated with existing intelligence broadcasts. These include the Commander's Tactical Terminal (CTT), Multi-Mission Advanced Tactical Terminal (MATT), Tactical Receive Equipment (TRE), Constant Source, TIBS Interface Unit (TIU) and Quad Net Radio. The CTT and MATT are interim terminal solutions, with further migration planned to the Joint Tactical Terminal/Common Integrated Broadcast Service-Modules (JTT/CIBS-M) that provides the Department of Defense (DoD) with improved interoperability and dissemination of critical intelligence and targeting information. These tactical terminals allow Warfighters and other agency users to exploit the current IBS broadcast capabilities: Tactical Reconnaissance Intelligence eXchange System (TRIXS), Tactical Information Broadcast Service (TIBS), Tactical Related APplications (TRAP) Data Dissemination System (TDDS), and Tactical Data Information eXchange System-B (TADIXS-B). In accordance with the "IBS Implementation Plan," these legacy broadcasts will migrate to a single IBS broadcast with a Common Message Format (CMF).

In This Issue

The impact of this migration to a single CMF on the CTT3 radio is discussed in a White Paper prepared by the U.S. Army Communications and Electronic Command's (CECOM) Software Engineering Center (SEC), Fort Monmouth, NJ, in coordination with, and with input from Raytheon, Saint Petersburg, FL, and Raytheon, Greenville, TX. SEC provides software support for both the CTT and the JTT radios. Raytheon, Saint Petersburg, FL, is the developer and maintainer of the CTT3 software. Raytheon, Greenville, TX, is the developer of the CTT3 User Specific Processor (USP) software and various CMF related products, and prepared the "IBS CMF Migration Plan" on behalf of the IBS Executive Agent.

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The "Avionics/Intelligence and Electronic Warfare Bulletin" is a quarterly professional periodical published by the CECOM SEC Avionics/Intelligence and Electronic Warfare Division

From the Senior Editor's Desk

Written by Mr. Joseph Ingrao, Deputy Director, (A), Battlespace Systems Support

Culmination of Hard Work

It is gratifying to see years of hard work and innovation, by many people, pay off in today's war. Threat rapid reprogramming was but a thought in the late 80's. In the 90's, what came to be known as the Army Reprogramming Analysis Team (ARAT) was created.

There have been many times I have seen the words "S*upport the Warfighter.*" I have the pleasure of working with a group of people who are really making a difference for the Warfighter. The ARAT's beginnings came from the hard learned and costly lessons we experienced in the Persian Gulf. A young Lieutenant Colonel from DAMO-FDI was making the phrase *"Support the Warfighters"* more than just a slogan on the wall. He rallied support within the Army to activate an organization with the mission of actually applying the Army's lessons learned, instead of letting them sit in a database until the next military conflict arose. In 1991, then BG (now LTG) Ronald Adams activated the ARAT to perform this mission and truly made the phrase *"Support the Warfighter"* mean something. The mission of the ARAT is to provide a capability and infrastructure for our Electronic Warfare systems to be reprogrammed in a rapid manner. What this really means is to create a process and/or fix all the gray areas that fall in-between the collection of information to the use of that information in the field to support our Warfighters.

The main areas that were put in place to form the ARAT structure were the capability to perform threat analysis, the capability to make upgrades/create new Mission Data Sets (MDS) and the capability to distribute the MDSs to the field to be downloaded and installed. Throughout the 90's, the new ARAT infrastructure was tested in field exercises, such as *Serene Byte*, and continuously improved. However, it wasn't until now - in today's war against terrorism - that all this high-tech work has proved fruitful and that the ARAT structure performed as planned during a real wartime environment.

The key to success for a high-tech Army is not simply periodic renewal. There must also be cooperation in the translation of new ideas into new products and processes. I believe the development of the ARAT infrastructure demonstrates this very effectively. At the ARAT/Electronic Combat Office, we have just

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Hard Work (cont'd)

reviewed our core disciplines and have attempted to optimize or "fine tune" them to the needs of our customers. During this self-analysis, it became evident that the ARAT/Electronic Combat Office, through its rapid reprogramming infrastructure, provides five major functions to the Warfighters:

- ***Flagging Models Development***
  - An automated method of analyzing intelligence threat data (in near-real time) and directing the pertinent information that will effect your system to your threat/system analyst.
- ***Threat Analysis***
  - Continuous monitoring of the location and changing radar signature of enemy threats. Using these data, our threat analysts will compile a tailored threat list for your EW system based on your system's capabilities, the platform, and the geographical location of the mission. Our analysts work in a Multi-Service environment where they have access to and compare data with the U.S. Air Force, Navy, and Marine Corps.
- ***MDS Development and Testing***
  - Creation and validation of regionalized MDSs for specific EW systems. During this phase, the threat lists compiled in the previous phase are programmed into the EW system. Once the programming is completed, the system is tested using threat simulators to mimic battlefield conditions.
- ***Data Distribution/Fielding/Communications***
  - Providing a communications infrastructure to enable Electronic Warfare Officers, or field users, to communicate as well as get the validated MDS to load into their systems. This infrastructure includes access to the Multi-Service Electronic Warfare Data Distribution System (MSEWDDS) or the Multi-Service ARAT web site via STU-III or SIPRNET connections.
- ***Field Data Loading***
  - Identifying the hardware (i.e., Memory Loader/Verifier [MLV]) and developing the software to support loading the MDS into Target Sensing Systems in the field. This function also includes providing an interim rapid reprogramming capability to the Warfighter in the form of a reprogramming kit.

These processes are in-place today -- they are not part of some futuristic plan. If you have questions about how our core competencies can benefit your EW system, please e-mail or call us.

CTT3 (cont'd)

The White Paper provides background information concerning the changes that will be incorporated into the architecture of the IBS to support the CMF, how these changes will impact the operation of the CTT3 radio, and recommended solutions for minimizing this impact. In addition, it provides information to CTT3 host system managers/maintainers to help them assess the impact of the CMF on their host Tactical Data Processors (TDPs) and their Host System Platforms (HSPs). The White Paper was distributed to the Deputy Chief of Staff for Programs-Force Development (DCSPRO-FD), the Army Broadcast Information Office (ABIO), and all CTT3 host system managers/maintainers on 8 August 2001. The following paragraphs summarize the White Paper.

CTT3

Overview of IBS CMF Changes and Their Impact on CTT3s

The IBS CMF is used for the exchange of near-real-time tactical information over existing and new line-of-sight, satellite, and terrestrial networks. The goal of CMF includes providing the capabilities to support the IBS data information exchange requirements. The CMF migration networks include the TIBS and TDDS (TRIXS is not part of this current CMF migration and its role will be operationally determined at a later date). Currently, CTT3s convert the TDDS and TIBS Over-The-Air (OTA) messages into the Tactical Data Intercomputer Message Format (TDIMF) formatted output messages to host TDPs.

The CMF is one message format branched into two possible broadcast forms. CMF-X allows for a textual, human-readable representation and makes use of Commercial Off-The-Shelf (COTS) standard eXtensible Markup Language (XML) tools. CMF-B is for use on the OTA narrowband broadcast networks (TIBS and TDDS), since data represented in the CMF-X format is too large to be practical for transmission using the UHF broadcast medium. Both CMF broadcast formats do not limit data fidelity, allowing sensors to pass information exactly as the sensor reports the information without altering the data. Current TDIMF formatted messages that have fixed unit values and use other resolution factors are more restrictive. The CMF migration maintains full backward compatibility with the existing TDIMF REV E to avoid impacting the largest portion of IBS consumers. CMF data that is the same as data within existing TDIMF REV E blocks will be translated into those same TDIMF blocks/fields. New CMF data that does not exist will be translated into new TDIMF blocks.

Delivery of the OTA IBS CMF-B is scheduled for July 2002, as is delivery of the new CMF User Specific Processor (CUSP) software, by Raytheon Systems, Greenville, TX, under contract to the USAF (development costs are being borne by the IBS Program Office). The CTT3 radios will utilize the CUSP software to translate CMF-B OTA formatted messages to TDIMF formatted output messages to the host TDPs. It also allows CMF-B OTA formatted messages to be output to the host TDPs. The CTT3 hardware and software will support OTA receiving or OTA transmitting of CMF-B formatted messages, and the new CUSP

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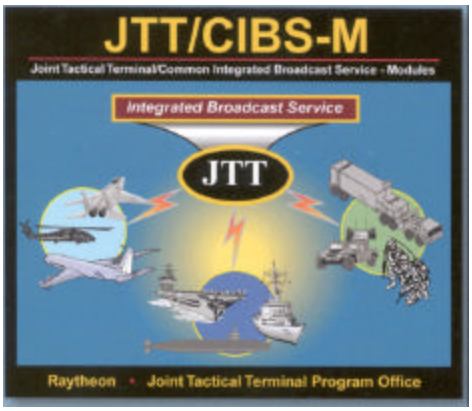
CTT3 (cont'd)

software. If the host TDPs still wish to receive the legacy BOM format, they must continue to use the non-CMF USP (e.g., USP 10A, USP 11A, etc.). Once the CTT3s have transitioned to the CUSP, it is expected that USP development will be halted or not upgraded to meet changing CMF-B or IBS requirements.

What This All Means to CTT3 Users

IBS CMF migration will have minimal affect on receive-only CTT3 host TDPs. Receive-only host systems can continue to operate with the current CTT3 non-CMF USP (e.g., USP 10A, USP 11A, etc.) until the end of Milestone II (3rd Quarter Fiscal Year 2007 [3QFY07]) due to dual reporting of CMF-B and the legacy BOM format. Before transitioning to Milestone III, receive-only host systems must switch to the CTT3 CUSP, or the JTT, to translate CMF-B formatted OTA messages to TDIMF (REV E or higher) or CMF-X formatted messages for output to the host. All host TDPs will have the option to select between CMF-B, baseline TDIMF, a later TDIMF revision (using a CTT3 or JTT), and the targeted format CMF-X (using a JTT), as an output to the host during all three of these milestones. Note however that, in accordance with the "IBS Migration Plan", CTT3s are scheduled to be retired and replaced by JTTs by the end of FY06, or earlier.



During Milestone I and II, 3QFY03-3QFY07, host systems can continue to receive the legacy BOM format from the legacy channels via the CTT3 and, using the non-CMF USP, output TDIMF formatted messages to the host. CMF channel data will not be processed by the CTT3 under this option. Host TDPs will not be able to take advantage of new intelligence data available on the new CMF IBS networks, nor the increase in data fidelity (beginning with Milestone III, all users must receive CMF-B OTA formatted messages from the CMF channel; the legacy channels will no longer be operational).

All CTT3 host TDPs that wish to receive CMF-B OTA formatted messages from the CMF channel via the CTT3, and continue to utilize TDIMF formatted output from the CTT3, will not require significant hardware and software upgrades outside of installing the CUSP onto the CTT3. The new CUSP software, once installed on the CTT3, will allow the CTT3 to output TDIMF or CMF-B formatted messages to host TDPs (but not CMF-X). Minor updates to the host TDP software may be required to modify the CTT3 host terminal configuration message to select TDIMF output from the CTT3 CUSP. If desired, host TDPs can modify their software to take advantage of new intelligence data available on the new CMF IBS networks (e.g., new CMF TDIMF blocks), with some loss of data fidelity.

For all CTT3 users that wish to receive CMF-B OTA formatted messages from the CMF channel, and who have a requirement to begin receiving data output in CMF-B or CMF-X format, the recommended approach, in keeping with the intent of the "IBS Migration Plan", is to replace their CTT3 by migrating

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CTT3 (cont'd)

to JTT/CIBS-M by the end of FY06, or earlier. The JTT will receive CMF-B OTA formatted messages and, if directed, perform translation from CMF-B OTA format to CMF-X man readable format with the on-board bi-directional CMF B/X translator software. The JTT can then export these CMF-X formatted messages to the host TDP for processing via the built-in Ethernet port, or CMF-B or TDIMF formatted messages via the serial port. The host TDPs would have to be modified to interface to the JTT and to process the CMF-B or CMF-X formatted messages, or to take advantage of new intelligence data available on the new CMF IBS networks via the new CMF TDIMF blocks.

JTT - T/R

The IBS CMF migration will have greater impact on the producers once the dual reporting is ceased. They will be forced to transmit in CMF-B OTA format by the end of Milestone II. The CTT3 with CUSP will transmit/receive CMF-B, but the CTT3 will not have the capability of translating from CMF-X man readable to CMF-B OTA format. In Milestone III, 2QFY07, host TDPs who are producers will be required to upgrade their software with the capability to send CMF-B OTA format to the CTT3 or its replacement (JTT), and/or to utilize CMF-X.

The impact to host TDPs of upgrading their software with the capability to process CMF-X formatted messages, and/or to transmit CMF-B OTA format to the CTT3 or its replacement, was beyond the scope of the White Paper, as this will require careful consideration on the part of each individual producer system. However, one solution that the host TDPs may want to consider is to host the JTT bi-directional CMF-X and CMF-B translation CIBS-M software on their host TDP to provide CMF-B formatted messages to the CTT3. However, the recommended approach, in accordance with the "IBS Migration Plan", is to replace the CTT3 with the JTT with its onboard CIBS-M translation software, noting again that the production completion date for the JTT is expected to be 1QFY06, and that CTT3s are scheduled to be retired and replaced by JTTs by the end of FY06 or earlier.

For additional information, please contact the following POCs:

David Cruz, DSN 992-8196,
E-mail: david.cruz@mail1.monmouth.army.mil

Tejash Maisuria, DSN 992-5319,
E-mail: tejash.maisuria@mail1.monmouth.army.mil

An Oldie But A Goodie!

Within Army Aviation is a minority of special aviators who fly in some of our more challenging high flight profiles with a Radar Signal Detecting Set (RSDS) that was fielded to Special Electronic Mission Aircraft (SEMA) five years before Desert Storm. How time 'flies' when it comes to our Aircraft Survivability Equipment (ASE). I suppose you cadre of SEMA aviators know I am writing about the AN/APR-39(V)2

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Oldie (cont'd)

(hereafter referred to as the 39(V)2) RSDS – others within our Army aviation community might even scratch their heads and wonder if I am confusing the 39(V)2 with the AN/APR-39A(V)2 (hereafter referred to as the 39A(V)2), which is the U.S. Navy/Marine Corps' newest RSDS being fielded to all its 'low-slow' type platforms.

RC-12 and EH-60 Aircraft

The 39(V)2 is presently installed on specific U.S. Army EH-60 and RC-12 aircraft supporting both domestic and overseas operations. Each of these aircraft flies profiles that range from relatively low altitude to what can be termed high altitude. Each of these environments exposes the aircraft to different levels of Radio Frequency (RF) emitter activity and the associated weapon systems. From open source materials, such as brochures published by the multiplicity of defense companies, it is apparent that the RF spectrum has become a lot more complex from the days when this RSDS was first fielded.

Old and new radar and weapon systems

Radars that once could track single targets have been improved to handle multiple targets; low altitude and high altitude tracking have been improved with the use of faster/lighter computer processors; and the weapons themselves have improved propellants, range and 'G' tolerances.

Lessons learned from the AN/APR-39A(V)1/4 (hereafter referred to as the 39A(V)1) during Desert Storm and subsequent operations and flight tests are that:

- You cannot program every operating mode of every emitter in the RF environment in which you operate.

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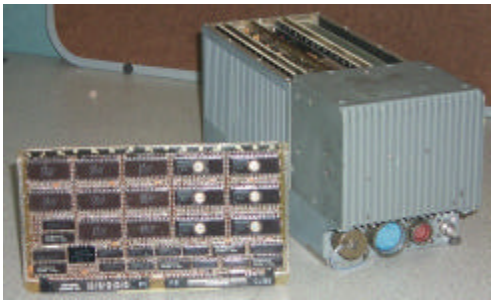
Oldie (cont'd)

- You cannot build one Mission Data Set (MDS) for the whole world.
- You have to produce relevant and understandable aviator products that are written for aviators and aviator Electronic Warfare Officers (EWOs) and not engineering 'geeks'.

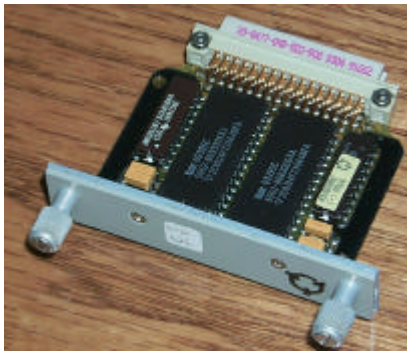
So having set the stage for this discussion, let us take a look at what the Communication Electronics Command, Software Engineering Center, Electronic Combat Branch (CECOM SEC ECB) and the Army Reprogramming Analysis Team-Threat Analysis (ARAT-TA) have done to try and improve the 39(V)2 from the aspect of detection, display and aviator products.

AN/APR-39(V)2 RSDS

Under Army Regulation 525-15, the 39(V)2 is classified as a Target Sensing System (TSS). It is considered reprogrammable, but not rapidly reprogrammable. Any of the old gray-haired SEMA drivers around will know that it seems as though the programmed emitter data in this box has not been updated as often as other RSDSs. You are partially correct, and that's partly because of the logistical challenges of dealing with limited numbers of systems, lack of instant electronic reprogrammability and the methodology of storing the data in the RSDS processor – the data is stored on Ultraviolet Programmable Read Only Memory. Most electronic warfare systems today (e.g., the 39A(V)1 and 39A(V)2) use Electronic Erasable Programmable Read Only Memory which allow a more rapid and timely update to systems.



AN/APR-39(V)2 Processor and A1 UVPROM Board



AN/APR-39A(V)1/4 EEPROM UDM

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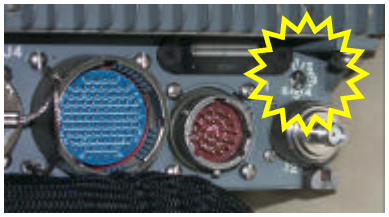
Oldie (cont'd)

To improve detection capabilities and reduce ambiguities of the 39(V)2, CECOM SEC ECB and ARAT-TA had little choice but to go the way of the 39A(V)1 and 39A(V)2 – we opted to regionalize the MDS so that there was more space available on the UVPROM memory board. This approach allows us to program some of the newer more complex emitters and to improve the pulse deinterleave process. Unlike our sister services who 'regularly' update their EW systems' Operational Flight Programs (OFPs), you might want to know that the U.S. Army has never implemented any update change to the OFP or A1 board since the box was fielded. Therefore, any attempts to change with the times has been solely restricted to manipulating 'ye olde original software'.



39(V)2 Processor Selector Switch

Consequently, when the RSDS is processed with the newer MDS (00, 10, 20-90), the six-position regional selector switch on the front of the processor will now default to one MDS. As a result, when units deploy to new areas of operation they will need to update the A1 boards, e.g., flying in Asia will require a different A1 board than flying in Europe. Slowly but surely the old MDS numbers like 30, 31 and 32 you have seen displayed on the IP-1150 display will be replaced. It is fortunate that the CECOM SEC ECB can program the A1 boards in the lab after testing, but coordination is a must to schedule replacement/swap out of the boards in your unit.

To support the aviators, a 39(V)2 library has been established on the Multi-Service Electronic Warfare Data Distribution System (MSEWDDS) - a fancy word for the secure bulletin board for EW systems, resident at Eglin AFB. Here, aviators and EWOs can download the aviator kneeboard cards, pertinent notes and kneeboard lists for each of the available 39(V)2 MDSs. Emitters that are programmed in a specific MDS are defined, limitations to the system detection and display (if any) are annotated, ambiguities are listed, and symbology is annotated for each threat.

For the first time, Army AH-64 aviators using the 39A(V)1/4, and RC-12 aviators using the 39(V)2 will have very similar MDS numbers for the same regions in which they operate as a supporting team. Also, the Army aviators' MDS will mirror the USN/USMC's using the 39A(V)2. At a glance at their displays, aviators working together will be able to tell whether they have the right MDS for the right region. This regionalization of MDSs for the 39(V)2 is explained in greater detail in the information file in the MSEWDDS Library.

If you have any questions on the 39(V)2 RSDS, please contact Mr. John Amoretti, your RSDS Project Leader at CECOM SEC ECB at (732) 532-3981 or DSN 992-3981.

Submitted by Mr. Pete McGrew, SRI International and Mr. Rod Klayton, ILEX Systems

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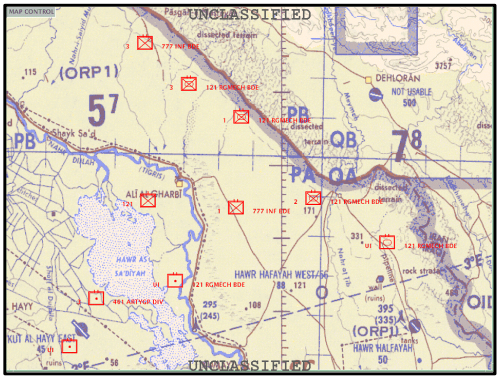
All Source Analysis System – All Source (ASAS-AS) Software Version AS3.3 Expedited Delivery

Introduction

This article provides a short overview of the expedited release of the ASAS-AS Version AS3.3 software baseline that was recently accomplished to meet the immediate situational requirements of the Warfighter. The result was the rapid delivery of a product that met the needs of the Warfighter during current high-tempo operations. The Block I ASAS-AS is the lynch pin of the All Source Analysis System (ASAS) family of systems. The ASAS-AS consists of a suite of three to six workstations with an Army Division or Corps Analysis and Control Element (ACE) that receives multi-disciplined intelligence information from multiple sources and processes it into fused intelligence products. The ASAS-AS also assists analysts with Intelligence Preparation of the Battlefield (IPB), maintenance of the enemy situation, and targeting. The system is capable of leveraging information from national-level databases to support contingency planning of tactical operations.

The ASAS-AS provides for the collection, analysis, and dissemination of multi-intelligence products and serves as the operational link to the national Modernized Integrated Database (MIDB). The system also provides for the capability to fuse intelligence information across disciplines and echelons. The key enabler to this process is the All Source Correlated Database (ASCDB). The ASCDB serves as a centralized repository of unit, equipment, and installation records that can be added, updated, and viewed based upon user intelligence requirements. Through a nationally accredited process, intelligence information contained within the ASCDB is forwarded to operational users via the ASAS-Communications Control Set (ASAS-CCS). The External Database Coordination (EDC) message is the information exchange vehicle employed by ASAS to pass ASCDB information. The ASAS-AS can tailor the information contained in EDC messages based upon the commander's requirements and provide recurring updates to ensure that the ASAS family of system databases is current and consistent.



ASAS-AS Software Version AS3.3 Expedited Delivery

The expedited release of the ASAS-AS Version AS3.3 software baseline was recently requested by key MI units to meet the situational needs of the Warfighter after the events of 11 September. The early release effort, which commenced mid-September, was quite extensive and included important enhancements in the handling of MIDB data, as well as the resolution of known high-priority software anomalies. Prior to this effort, the U.S. Army Communications-Electronics Command (CECOM) Software Engineering Center (SEC) had planned several software upgrades to the fielded baseline. These software upgrades addressed MIDB Outbound Transaction File (TF) modifications, MIDB Normalization Tables, and Analyst Prioritization and Filter (APAF) Criteria processing anomalies, which were previously identified as a result of the use and test. Additionally, based on high-priority user requirements, the Local Area Network (LAN) communications capability, initially

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ASAS-AS (cont'd)

scheduled to be issued as a Technical Bulletin against this baseline in 2FY02, was also included in this immediate release.

The U.S. Army Training and Doctrine Command (TRADOC) System Manager (TSM)-ASAS mandated a delivery date of this complete software package to selected operational units no later than 21 September 2001. Initial deliveries of the software baseline included the resolution to 119 Software Problem Reports, the MIDB
Outbound TF, MIDB Normalization Tables, LAN communications capabilities, and resolutions to the APAF Criteria processing.

The following is a summary of the enhancements and modifications in the ASAS-AS Software Version AS3.3 baseline.

a. Implemented Phase III of the MIDB 2.0 effort, including:

(1) Restructured the ASCDB to accommodate the newly incorporated MIDB data elements.

(2) Implemented extensive system/application-level Functional Identity (FI) software and database modifications to support the ASCDB restructuring.

(3) Implemented Outbound TF requirements in the form of Nominations and Data Change Requests.

(4) Provided user-definable filters for performing the MIDB to ASCDB population.

b. Removed obsolete functionality to include the Intelligence Collection Management, Line of Bearing Resolutions, and Reference Integrated Database.

c. Modified the EDC message to support ASAS Global Command and Control System interoperability through the addition of MIDB Unit Identification for the owning unit in equipment records transmitted via auto-generated EDC messages.

d. Implemented an Open Virtual Memory System upgrade to v7.1-2, which will support the Extreme Performance (XP)1000 hardware being fielded to key units by PM Intel Fusion. The XP1000 hardware will provide the users with a more maintainable hardware platform that provides enhanced processing capabilities. This was accompanied by a firmware upgrade required by the OVMS v7.1-2.

The ASAS-AS Software Engineering and Engineering Support Teams met, and in some respects, exceeded the fielding requirements identified by the TSM ASAS in support of the Warfighter. Software Test Specialists accelerated the review of new or changed software functions and focused on the functional areas prioritized by the TSM, while the Documentation Specialists completed and produced soft copies of Functional User Manuals describing new and modified functionality. The Configuration Management Specialists

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ASAS-AS (cont'd)

posted software baseline installation instructions and operational notes for this version on the Joint Worldwide Intelligence Communications System to allow rapid dissemination of the required information to the Warfighter. Additionally, Security Engineers completed a limited risk analysis, along with the required paperwork for an Interim Approval to Operate, which was granted.

Summary

The software baseline was successfully released because the Post Production Software Support process was followed, but tailored to balance risk against the urgency of Warfighter requirements. The successful effort to rapidly respond to Warfighter requirements demonstrates the flexibility and adaptability of the CECOM SEC ASAS Software Maintenance and Field Support Teams.

CECOM SEC Intelligence Fusion Systems (IFS), as a member of Team ASAS, provides the maintenance and near-term enhancements to these systems to meet evolving battlefield requirements. Support includes both Depot-level maintenance of tactical system software baselines and on-site support to the soldiers operating ASAS through regional Tactical Automation Support representatives. Through close and continuous interaction with ASAS users and their representatives, CECOM SEC IFS aggressively pursues the maintenance and enhancement of ASAS to meet the needs of our Warfighters.

For additional information, please contact:

U.S. Army CECOM SEC IFS
Fort Huachuca, AZ 85613-5000
Phone (520) 538-6188; DSN 879-6188
http://cecom-ifs.army.mil

ARAT Away Team Conducts Germany and Korea Awareness Sessions

During late November and early December, the ARAT Away Team traveled to Germany and South Korea to provide pilots, Electronic Warfare Officers (EWOs) and maintainers with awareness briefings on both the distribution aspect of the ARAT process and the capabilities of the AN/APR-39A(V)1/4 Radar Signal Detecting Set and other Aircraft Survivability Equipment (ASE). The Away Team consisted of Mr. Marc Demarest and Mr. Michael Crapanzano, ILEX Systems, and Mr. Pete McGrew, SRI International, with on-site assistance from the SEC European Software Support Office (ESSO) and the Korean Software Support Office (KSSO).

The first part of each session was “how-to” oriented and centered on:

- Configuring a computer and a STU-III to connect to the Multi-Service Electronic Warfare Data Distribution System (MSEWDDS)/Multi-Service Electronic Warfare Website (MSEWWEB) and both the unclassified and classified ARAT Websites,

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Away Team (cont'd)

Mr. Mike Crapanzano provides classroom instruction to Unit EWOs

- Downloading an MDS from the MSEWDDS/WEB,
- Configuring a computer to perform an MDS reprogramming change using the ARAT-supplied MLV software and cable kit, and
- Establishing MSEWDDS, ARAT dial-up SIPRNET, and Defense Information Systems Agency (DISA) dial-up SIPRNET accounts.

Additionally, the attendees were introduced to the Palladium Secure Modem, a NSA approved device that can be used for dial-up to the SECRET Collateral networks such as the ARAT network, once DISC^4 grants approval.

The second part of each session focused on the use and theory of operation, from the pilot's perspective, of the AN/APR-39A(V)1/4 RSDS. Discussion included the system's strengths and weaknesses, the Army's need for reprogramming the AN/APR-39A(V)1/4, maintenance issues, and the associated anomaly problems with the MDSs and associated ASE systems.

At the end of each session, attendees were provided the ARAT "ToolBox" CD-ROM containing configuration documentation and all necessary software/drivers for configuring the many software applications to enable ARAT connectivity with MS Windows.

Mr. Pete McGrew answers system capability questions in Korea

The EWOs and other Warfighters who attended the sessions provided useful feedback on the ARAT effort. The following are some of the areas that were recommended for ARAT research and follow up:

- Add a maintenance page to the ARAT classified website that would include National Stock Numbers (NSNs) for maintenance items such as UDMs, Breakout Boxes, and torque wrenches for the AN/APR-39A(V)1/4, as well as their associated costs. There was also an expressed need for maintenance updates, security classification guides, Training Manuals (TMs) and any pertinent maintenance information that can assist the unit EWO, pilots and maintenance personnel.
- Add a web page to both the ARAT classified and unclassified websites with ESSO and KSSO support information and contact numbers
- Create an ARAT and/or TACOPS list server or newsgroup. Although the ARAT is currently working on building TACOPS webpages for the ARAT classified website, EWOs recommend adding a list server or newsgroup to unclassified website as well. The list server can be used by EWOs to pass information and questions to one another to help resolve unique field problems and tap into the vast knowledge already in the field.

(cont'd next page)

Away Team (cont'd)

- Add a toll free local access number to resolve many of the dialing issues that units have with dialing back to CONUS due to problems with all units dialing back to CONUS because of limited overseas access.
- Add more EWO SIPRNET URL links to classified website so that the unit EWOs could use ARAT as the "one-stop shopping" website, alleviating the need to search SIPRNET for the information.
- Host all MDS files on the ARAT website, as well as on the MSEWDDS to streamline access to required information and data.
- Investigate problems with EWOSS 2000 software. EWOs are now being forced, through Army mandates, to upgrade to Windows NT and 2000. EWOSS software does not currently work on these Operating Systems (OSs). EWOs are also requesting a software solution to make EWOSS software work on newer PCs and laptops and highly recommend not using a hardware solution. Investigate re-coding EWOSS or building new MLV software to work with newer PCs and laptops and on the newer OSs.

These ARAT awareness and assistance sessions were extremely valuable for the Aviation unit EWOs and the ARAT. Some attending EWOs did not initially understand the need for reprogramming, which was made clear during the sessions. All attendees gathered an appreciation for the ease of accessing and reprogramming MDS files and gained a better understanding of the capabilities of the AN/APR-39A(V)1/4 and other ASE . In return, the ARAT learned more about the needs of the Warfighter and were to focus their efforts to meet those needs. As in the past, the sessions in Germany and Korea were well worth the investment and showed that the Warfighter is ARAT's Number One priority.

Thanks go to the following units who supported and participated in the awareness briefings:

- 1-1 AVN BN (4th BDE - 1st ID)
- 1-1 CAV SQDN (1st AD)
- 3-158 AVN BN (12th AVN BDE)
- 1-501 AVN BN (4th BDE - 1st AD)
- 2-501 AVN BN (4th BDE - 1st AD)
- 2-6 CAV SQDN (11th AVN REGT)
- 4-7 CAV SQDN (2nd ID)
- 159th MED CO
- 377th MED CO
- 2-2 AVN REGT (2nd ID)
- 2-52 AVN REGT
- 3rd MI BN
- 1-52 AVN REGT
- 1-2 AVN REGT (2nd ID)
- 542nd MED CO

Submitted by the A/IEW Bulletin Staff

MLV Update

In our October 2001 edition, we reported that the revised MLV kit (PCMCIA upgrade) for the AN/APR-39A(V)1/3/4 would be available to the field soon after the New Year. Just to clarify the issue, the revised MLV kit should be available in early April 2002. The kit is currently being tested on all available platforms, as well as existing and new operating systems. Please consult the ARAT Web Page for updates on the availability of the kit.

For Your Information

Coming Events!

Event	*Location*	*Date(s)*
AUSA Asymmetric Warfare Symposium & Exhibition	*Falls Church, VA*	*8-10 April 2002*
Fiesta TechNet	*Henry B. Gonzales Convention Center, San Antonio, TX*	*22-24 April 2002*
AFCEA Spring Intelligence Symposium 2002	*Langley, VA*	*24-25 April 2002*
14th Annual Software Technology Conference	*Salt Palace Convention Center, Salt Lake City, UT*	*28 April - 2 May 2002*
International EW Conference & Exposition	*Grand Hotel, Stockholm, Sweden*	*5-8 May 2002*
AAAA Annual Convention	*Nashville, TN*	*11-15 May 2002*

Now Available on the Web

All 23 previous issues of the "ARAT Bulletin" and the "A/IEW Bulletin" are now available on the ARAT web site. The issues are available in HTML format for on-line viewing, as well as in PDF and MS Word 97 format for viewing and downloading.

Future issues will also be posted on the site and in the same format. You are encouraged to download any issue (or issues) for local reproduction and distribution within your agency.

The ARAT web site can be accessed at http://arat.iew.sed.monmouth army.mil/, or from a link on the A/IEW web site at http://www.iew.sed.monmouth.army.mil/

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ARAT Rapid Reprogramming Communications Infrastructure Laboratory (R^2CIL)

Telephone:
#1 (732)532-9395
DSN: 992-9395
#2 (732) 532-9392
DSN: 992-9392
#3 (732) 532-1859
DSN: 992-1859
#4 (732)532-5319
DSN: 992-5319 -or-*
(732) 530-7766 ext. 318 or 324**
** Answering machine/voice mail option available at this number for after-hour messages*

Email:
Unclassified:
webmaster@arat.iew.sed.monmouth.army.mil
SIPRNET:
webmaster@arat.army.smil.mil

ATTENTION ELECTRONIC WARFARE OFFICERS!

Electronic Warfare Officers requiring Memory Loader/Verifier (MLV) reprogramming kits, copies of the "ARAT Software and Documentation Toolbox" CD or the "Mission Data Set Training" CD should contact either Ms. Fanny Leung-Ng (DSN: (312) 992-1859/CML: (732) 532-1859) (fanny.leung-ng@mail1.monmouth.army.mil) or R^2CIL (DSN: (312) 992-9395/9392/CML: (732) 532-9395/9392) (webmaster@arat.iew.sed.monmouth.army.mil) or fax your requests to DSN: (312) 992-8287/5238 or CML: (732) 532-8287/5238.

The A/IEW Community Key Points of Contact

Agency	Name/e-mail	Comm/DSN	Fax Number
Deputy Director, (A), Battlespace Systems Support	Mr. Joseph Ingrao joseph.ingrao@mail1.monmouth.army.mil	(732) 532-0065 DSN 992-0065	(732) 532-8287 DSN 992-8287
Acting Chief, A/IEW Division/Avionics Branch	Mr. Edward Wuyscik edward.wuyscik@mail1.monmouth.army.mil	(732) 427-3924 DSN 987-3924	(732) 427-3923 DSN 987-3923
Deputy Chief, A/IEW Division	Dr. Ihor Hapij ihor.hapij@mail1.monmouth.army.mil	(732) 532-8199 DSN 992-8199	(732) 532-5238 DSN 992-5238
Electronic Combat Branch ARAT-SE (CECOM)	Mr. Gary Clerie gary.clerie@mail1.monmouth.army.mil	(732) 532-1337 DSN 992-1337	(732) 532-5238 DSN 992-5238
GUARDRAIL Branch	Mr. Raymond Santiago raymond.santiago@mail1.monmouth.army.mil	(732) 532-1420 DSN 992-1420	(732) 532-8287 DSN 992-8287
Intelligence Fusion Branch	Mr. William Walker walker@huachuca-emh27.army.mil	(520) 538-6188 DSN 879-6188	(520) 538-7673 DSN 879-7673
SIGINT Branch	Mr. Robert Hart robert.hart@mail1.monmouth.army.mil	(732) 532-6253 DSN 992-6253	(732) 532-8287 DSN 992-8287
Sensors Branch	Mr. Frank Toth frank.toth@mail1.monmouth.army.mil	(732) 532-8353 DSN 992-8353	(732) 532-8287 DSN 992-8287
ARAT-TA (Eglin AFB)	Mr. Norman Svarrer svarrer@eglin.af.mil	(850) 882-8899 DSN 872-8899	(850) 882-9609 (C) -4268 (U) DSN 872-9609 (C) -4268 (U)
ARAT-TA (Kelly AFB)	SFC Phillip Drake phillip.drake@lackland.af.mil	(210) 977-2021 DSN 969-2021	(210) 977-2145 DSN 969-2145
ARAT-SC (Fort Rucker)	Mr. George Hall hallg@rucker.army.mil	DSN 558-9334	DSN 558-1165

The A/IEW Bulletin Staff

Editor-In-Chief
Mr. Joseph Ingrao, BSSD

Editor
Mr. Joseph Skarbowski, ILEX Systems

Assistant Editor/Distribution Manager
Ms. Sandra Hoffmann, ILEX Systems

Send comments, changes of address, and articles to:
U.S. Army CECOM
Software Engineering Center
ATTN: AMSEL-SE-WS-AI
Fort Monmouth, NJ 07703
FAX: 992-5238 (DSN);
(732) 532-5238 (Commercial)